

CLAIMS

1. A resin-coated metal sheet comprising: a metal sheet; a lower resin layer containing a hydrophilic copolyester, formed on at least one side of the metal sheet; and an upper resin layer containing a copolyester derived from a diol component composed of 1 to 10% by mole of a diol derivative of alicyclic compound and 99 to 90% by mole of ethylene glycol, with a dicarboxylic acid component consisting of terephthalic acid, formed on the lower resin layer, the sum of a cyclic trimer of alkylene terephthalate being contained in the upper resin layer and the lower resin layer being 0.9% or less by mass.

2. The resin-coated metal sheet according to claim 1, wherein the diol derivative of alicyclic compound is a diol derivative of cycloparaffin.

3. The resin-coated metal sheet according to claim 2, wherein the diol derivative of cycloparaffin is 1,4-cyclohexanedimethanol.

4. The resin-coated metal sheet according to claim 1, wherein the hydrophilic copolyester is a copolyalkylene terephthalate containing 1 to 10% by mole of aromatic dicarboxylic acid having metal sulfonate group as the dicarboxylic acid component.

5. The resin-coated metal sheet according to claim 1, wherein the thickness of the lower resin layer is in a range from 0.5 to 5 μm .

6. The resin-coated metal sheet according to claim 1, wherein the plane orientation factor of the upper resin layer is in a range from 0.01 to 0.05.

7. The resin-coated metal sheet according to claim 1, wherein each of the upper resin layer and the lower resin layer is a biaxially stretched polyester film having the crystal size on the (100) plane in a range from 6 to 8 nm, determined by X-ray diffractometry.

8. The resin-coated metal sheet according to claim 1, further comprising a third resin layer containing a polyester containing any of 0.1 to 2% by mass of wax and 0.1 to 5% by mass of olefin resin, formed on the metal sheet on opposite side to the side of the upper and the lower resin layers.

9. The resin-coated metal sheet according to claim 8, wherein the plane orientation factor of the third resin layer is in a range from 0.02 to 0.06.

10. The resin-coated metal sheet according to claim 8, wherein the third resin layer is a biaxially stretched polyphthalate ester which has the relaxation time T_{1p} of 150 msec

or more at 1,4 position carbons of benzene ring, determined by structural analysis of solid high resolution NMR.

11. The resin-coated metal sheet according to claim 10, wherein the zone in the third resin layer having 0.02 or smaller double refractive index is a zone less than 5 μm of depth from the interface with the metal sheet.

12. The resin-coated metal sheet according to any of claims 1 to 12, wherein at least one layer selected from the group consisting of the upper resin layer, the lower resin layer, and the third resin layer contains a coloring matter.

13. The resin-coated metal sheet according to claim 12, wherein the coloring matter is a dis-azo organic pigment.

14. A resin-coated metal sheet for container, comprising a metal sheet and a resin layer containing a polyester as the main component, being formed on at least one side of the metal sheet, the resin layer being an accumulated resin layer having an upper layer and a lower layer contacting the metal sheet, the upper layer of the resin layer being formed by a polyester containing a dicarboxylic acid component mainly composed of terephthalic acid and a glycol component mainly composed of ethylene glycol and 1,4-cyclohexanedimethanol, while the content of the 1,4-cyclohexanedimethanol in the total glycol component being in a range from 1 to 10% by mole, the lower layer of the

resin layer being formed by a hydrophilic copolyester, and the content of oligomer (cyclic trimer) in the accumulated resin being in a range from 0.3 to 0.9% by mass.